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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,149	12/04/2001	Tracy J. Kimbrel	00280683AA	8249
30743 7590 05/23/2007 WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190			EXAMINER JEANTY, ROMAIN	
			ART UNIT 3623	PAPER NUMBER
			MAIL DATE 05/23/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/000,149	<b>Applicant(s)</b> KIMBREL ET AL.	
	<b>Examiner</b> Romain Jeanty	<b>Art Unit</b> 3623	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 May 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4,5,15,16,25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-5, 15-16, 25-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152:

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413).<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                        |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____   |

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### **Detailed Action**

1. This Office Action is in response to the communication received May 7, 2007.  
Claims 4-5, 15-16, and 25-26 are pending in the application.

### **Response to Arguments**

2. Applicant's arguments with respect to claims 4-5, 15-16, and 25-26 have been considered but are moot in view of the new ground(s) of rejection.

### **Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 4-5, 15-16, and 25-26 are rejected under 35 U.S.C. 102(a) as being anticipated by Jayram (Online Server Allocation in a Server Farm Via Benefit Task Systems).

As per claim 4, Jayram teaches associating each customer's demand with a benefit gained; finding a time-varying allocation of resources that would yield a benefit which is based on the benefit gained associated with one or more customer's demands, implementing the time-varying allocation of resources amongst one or more customers to yield said benefit, discounting future benefits; and finding optimal allocations of

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resources from current time through current time plus lookahead based on discounted benefit and forecast demand, wherein the step of discounting future benefits is based on a future discounting algorithm, wherein the future discounting algorithm is a deterministic algorithm that achieves a competitive ratio of  $(1 + 1/L) (L + 1)^{1/L}$ , where L is a lookahead factor which models some amount of future demand known to a provider of the resource (Page 540-549).

As per claim 5, Jayram teaches associating each customer's demand with a benefit gained, finding a time-varying allocation of resources that would yield a benefit which is based on the benefit gained associated with one or more customer's demands, implementing the time-varying allocation of resources amongst one or more customers to yield said benefit, discounting future benefits; and finding optimal allocations of resources from current time through current time plus lookahead based on discounted benefit and forecast demand, wherein the step of discounting future benefits is based on a future discounting algorithm, wherein the algorithm is an intermittent reset algorithm that achieves a competitive ratio of  $1 + 4/(L-7)$ , where L is a lookahead factor which models some amount of future demand known to a provider of the resource (Page 540-549).

As per claim 15, Jayram teaches modeling a resource allocation problem mathematically; in the model obtained from said modeling step, dividing time into intervals of fixed length based on the assumption that demand is uniformly spread throughout each such interval, associating each customer's demand with a benefit gained; and finding a time-varying allocation of resources that would maximize a benefit which is based on the benefit gained associated with one or more customer's demands; implementing the time-varying allocation of resources amongst one or more customers to

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maximize said benefit, discounting future benefits, and finding optimal allocations of resources from current time through current time plus lookahead based on discounted benefit and forecast demand, wherein the step of discounting future benefits is based on a future discounting algorithm, wherein the future discounting algorithm is a deterministic algorithm that achieves a competitive ratio of  $(1 + 1/L) (L + 1)^{1/L}$ , where L is a lookahead factor which models some amount of future demand known to a provider of the resource (Page 540-549).

As per claim 16, Jayram modeling a resource allocation problem mathematically; in the model obtained from said modeling step, dividing time into intervals of fixed length based on the assumption that demand is uniformly spread throughout each such interval, associating each customer's demand with a benefit gained; and finding a time-varying allocation of resources that would maximize a benefit which is based on the benefit gained associated with one or more customer's demands; and implementing the time-varying allocation of resources amongst one or more customers to maximize said benefit, wherein the algorithm is an intermittent reset algorithm that achieves a competitive ratio of  $1 + 4/(L-7)$ , where L is a lookahead factor which models some amount of future demand known to a provider of the resource (Page 540-549).

As per claim 25, Jayram teaches modeling the server allocation problem mathematically, in the model, dividing time into intervals of fixed length based on the assumption that each site's demand is uniformly spread throughout each such interval, maintaining server allocations fixed for the duration of an interval, servers being reallocated only at the beginning of an interval, and a reallocated server being unavailable for the length of the interval during which it is reallocated providing time to "scrub" the

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old site (customer data) to which the server was allocated, to reboot the server and to load the new site to which the server has been allocated, each server having a rate of requests it can server in a time interval and customers share servers only in the sense of using the same servers at different times, but do not use the same servers at the same time, and associating each customer's demand with a benefit gained by the service provider in case a unit demand is satisfied and finding a time-varying server allocation that would maximize benefit gained by satisfying sites' demand, wherein the future discounting algorithm is a deterministic algorithm that achieves a competitive ratio of  $(1 + 1/L) (L + 1)^{1/L}$ , where L is a lookahead factor which models some amount of future demand known to a provider of the resource.

As per claim 26, Jayram teaches modeling the server allocation problem mathematically in the model, dividing time into intervals of fixed length based on the assumption that each site's demand is uniformly spread throughout each such interval; maintaining server allocations fixed for the duration of an interval, servers being reallocated only at the beginning of an interval, and a reallocated server being unavailable for the length of the interval during which it is reallocated providing time to "scrub" the old site (.customer data) to which the server was allocated, to reboot the server and to load the new site to which the server has been allocated, each server having a rate of requests it can server in a time interval and customers share servers only in the sense of using the same servers at different times, but do not use the same servers at the same time, and associating each customer's demand with a benefit gained by the service provider in case a unit demand is satisfied and finding a time-varying server allocation that would maximize benefit gained by satisfying sites' demand,

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wherein the algorithm is an intermittent reset algorithm that achieves a competitive ratio of  $1 + 4/(L-7)$ , where  $L$  is a lookahead factor which models some amount of future demand known to a provider of the resource.

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Forecast et al (U.S. Patent No. 6,230,200) discloses a method of allocating resources in a file server.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Romain Jeanty whose telephone number is (571) 272-6732. The examiner can normally be reached on Mon-Thurs 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq R. Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

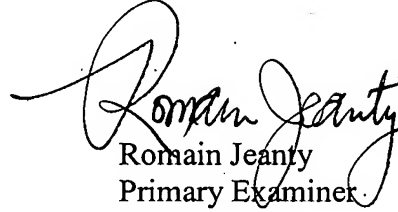
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Customer Service Representative or access to the automated information system, call  
800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 18, 2007



Romain Jeanty  
Primary Examiner  
Art Unit 3623